

Date: Wednesday, 12/13/2006 2:41:50 PM  
 User: Kim Johnston

## Process Sheet

Customer	: CU-DAR001 Dart Helicopters Services		Drawing Name	: TUBE ASSEMBLY		
Job Number	: 29924					
Estimate Number	: 10429					
P.O. Number	: N/A			Part Number	: D3304043	
This Issue	: 12/13/2006 S.O. No. : N/A			Drawing Number	: D3304 REV. B	
Prsh Rev.	: NC			Project Number	: N/A	
First Issue	: N/A			Drawing Revision	: B	
Previous Run	: 26693			Material	: N/A	
Written By	:			Due Date	: 1/15/2007	
Checked & Approved By	:			Qty:	4 Um: Each	
Comment	: Est: D 04.11.26 Revised Step 7 KJ/JLM					

## Additional Product

Job Number:



Seq. #:	Machine Or Operation:	Description :	
1.0	M304TR0875W065	SS TUBING	
		Comment: Qty.: 1.9469 f(s)/Unit Total: 7.7876 f(s) Material: AISI 304/316 SS tubing 0.875" x 0.065" wall (M304TR0.875W.065)	Batch: M103090 BG 07.01.16 4
2.0	HARDINGE	HARDINGE CNC LATHE SMALL	
		Comment: HARDINGE CNC LATHE SMALL 1- Cut blank: 22.00" as per Dwg D3304 2- Turn as per Folio FA458 and Dwg D3304 3- Deburr	TSG 07.01.16 4
3.0	QC2	INSPECT PARTS AS THEY COME OFF MACHINE	
		Comment: INSPECT PARTS AS THEY COME OFF MACHINE	BG 07.01.16 4
4.0	QC8	SECOND CHECK	
		Comment: SECOND CHECK	ML 07.01.16 4
5.0	SMALL FAB 1	SMALL & MEDIUM FAB RESOURCE 1	
		Comment: SMALL & MEDIUM FAB RESOURCE 1 1- Form as per Dwg D3304 Ensure that bend radius does not fall into straight section using DT8756. 2- Drill as per Dwg D3304 using drill Jig D3304-T1 3- Cut tube to length as per Dwg D3304 4- Deburr	FF 07-01-22 4

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Date: Wednesday, 12/13/2006 2:41:50 PM  
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Drawing Name: TUBE ASSEMBLY

Job Number: 29924

Part Number: D3304043

Job Number:



Seq. #: Machine Or Operation:

Description :

6.0 QC5

INSPECT WORK TO CURRENT STEP



Comment: INSPECT WORK TO CURRENT STEP

11/07/01/29 (4)

7.0 D33047

Bracket



Comment: Qty.: 1.0000 Each(s)/Unit Total : 4.0000 Each(s)

Bracket

Pick:

Qty	Part Number	Description	Batch
1	D3304-7	Bracket	1325067

FC 07/03/20 (4)

8.0 LARGE FAB 1

LARGE FABRICATION RESOURCE 1



Comment: LARGE FABRICATION RESOURCE 1

Weld bracket as per Dwg D3304 and QSI 004 using DT8775

FC 07/03/20 (4)

9.0 QC9

VISUAL WELDING INSPECTION



Comment: VISUAL WELDING INSPECTION

11/07/03/20 (4)

10.0 POWDER COATING

POWDER COATING



M1101601

(4x)

Comment: POWDER COATING

Powder Coat Grey Sandtex (Ref: 4.3.5.6) as per QSI 005 4.3

m-l

07/03/22

11.0 QC3

INSPECT POWDER COAT/CHEMICAL CONVERSION



Comment: INSPECT POWDER COAT

m-l 07/03/22

x2

12.0 BLBS0016

PIP PIN



Comment: Qty.: 1.0000 Each(s)/Unit Total : 4.0000 Each(s)

PIP PIN

Pick:

Qty	Part Number	Description	Batch
1	BLBS-0016	Pip Pin	M16188X4

✓

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes  No  DQA:  Date: 07/03/28  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

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Customer: CU-DAR001 Dart Helicopters Services

Drawing Name: TUBE ASSEMBLY

Job Number: 29924

Part Number: D3304043

Job Number:



Seq. #:	Machine Or Operation:	Description :
13.0	CBL460	Loop Sleeve 
		<b>Comment:</b> Qty.: 2.0000 Each(s)/Unit Total : 8.0000 Each(s) Loop Sleeve Pick: Qty Part Number Description Batch 2 CBL-460 Loop Sleeve <u>M100644</u>
14.0	CBL1240	Cable 
		<b>Comment:</b> Qty.: 1.0416 f(s)/Unit Total : 4.1664 f(s) Cable Pick: Qty Part Number Description Batch 12.5" CBL-1240 Cable <u>M102439</u>
15.0	SMALL FAB 1	SMALL & MEDIUM FAB RESOURCE 1 
		<b>Comment:</b> SMALL & MEDIUM FAB RESOURCE 1 Assemble lanyard and pip pin as per Dwg D3304 Identify as D3304-043
16.0	QC5	INSPECT WORK TO CURRENT STEP 
		<b>Comment:</b> INSPECT WORK TO CURRENT STEP
17.0	PACKAGING 1	PACKAGING RESOURCE #1 
		<b>Comment:</b> PACKAGING RESOURCE #1 Identify with P/N and B/N as per Dwg using a permanent fine point marker, then Stock Location: <u>107/3/27</u>
18.0	QC21	FINAL INSPECTION/W/O RELEASE 
		<b>Comment:</b> FINAL INSPECTION/W/O RELEASE
Job Completion		

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: \_\_\_\_\_ PAR #: \_\_\_\_\_ Fault Category: \_\_\_\_\_ NCR: Yes No DQA: \_\_\_\_\_ Date: \_\_\_\_\_  
 QA: N/C Closed: \_\_\_\_\_ Date: \_\_\_\_\_

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART AEROSPACE LTD	Work Order:	29924
Description: Tube Assembly	Part Number:	D3304-3
Inspection Dwg: D3304 Rev: B		Page 1 of 1

# FIRST ARTICLE INSPECTION CHECKLIST

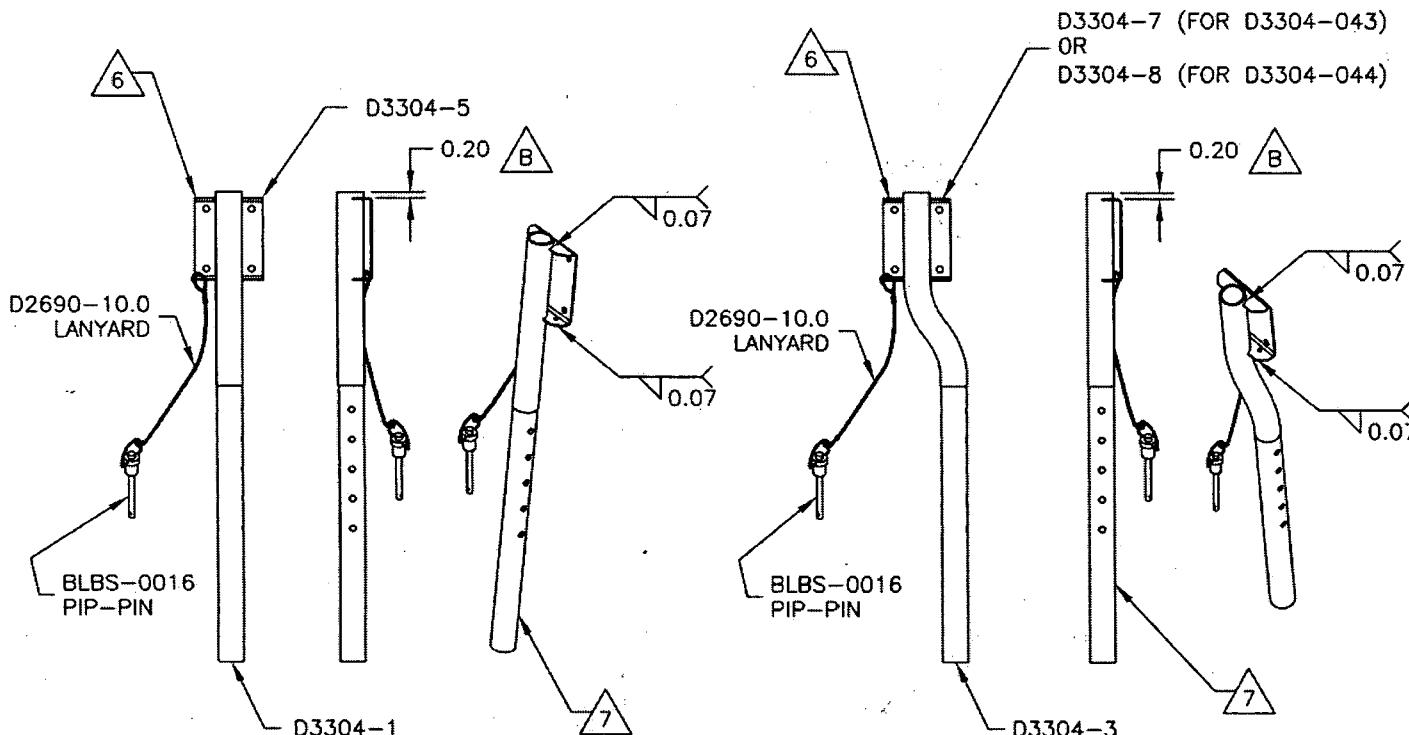
## X First Article      Prototype

Measured by:	BG	Audited by:	ml	Prototype Approval:	N/A
Date:	07-01-16	Date:	07/01/16	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	04.09.08	New Issue P/O D3304-043/-044	KJ/JLM	
B	06.03.09	Dwg Rev updated	KJ/JLM	<i>[Signature]</i>

**DART**

DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD	
CHECKED <i>H</i>	APPROVED <i>H</i>	HAWKESBURY, ONTARIO, CANADA	REV. B
DATE 05.07.15	DRAWING NO. D3304	SHEET 1 OF 4	
DATE A 05.07.15	TITLE TUBE ASSEMBLY	SCALE 1:6	
DATE B 05.07.15	NEW ISSUE		
	UPDATE DIMENSIONS; ADD D3304-7/-8		

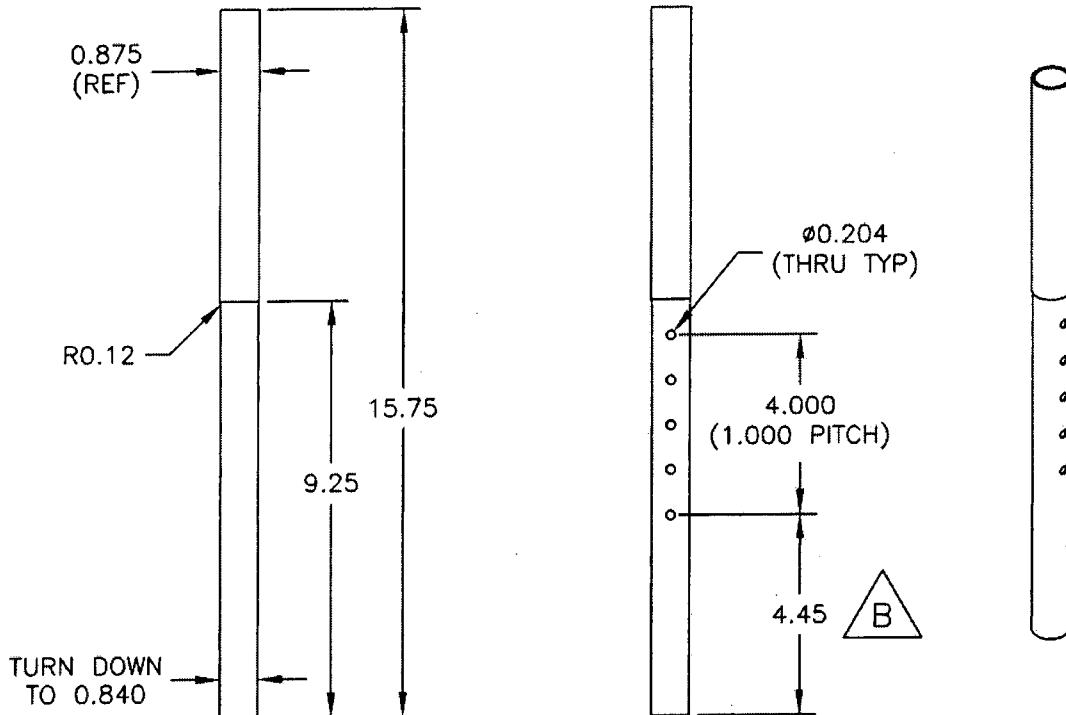
**D3304-041 TUBE ASSEMBLY**TOP COPY  
RETURN TO  
ENGINEERINGUNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICEWORK ORDER  
NO. 20924**D3304-044 TUBE ASSEMBLY (SHOWN)  
D3304-043 OPPOSITE****RELEASED**  
*05.08.11*

**D3304-041/-043/-044 NOTES:**

- 1) FINISH: POWDER COAT GREY SANTEX (REF. 4.3.5.6) PER DART QSI. 005 4.3
- 2) WELD PER DART QSI 004
- 3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 6) IDENTIFY AS INDICATED USING FINE POINT PERMANENT INK MARKER "TCCA-PDA, DART AEROSPACE LTD, P/N D3304-XXX B/N BXXXXX, FOR PRODUCT ELIGIBILITY SEE PDA04-11"
- 7) IF BEING ASSEMBLED WITH D3303-041, ADD THE FOLLOWING USING A FINE POINT PERMANENT INK MARKER: "TCCA-PDA, DART AEROSPACE LTD, P/N D412-724-XXX B/N BXXXXX, FOR PRODUCT ELIGIBILITY SEE PDA04-11"

**DART**

DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>HF</i>	APPROVED <i>HF</i>	DRAWING NO. D3304	REV. B SHEET 2 OF 4
DATE 05.07.15		TITLE TUBE ASSEMBLY	SCALE 1:4

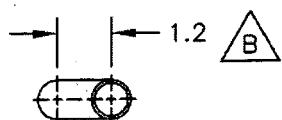
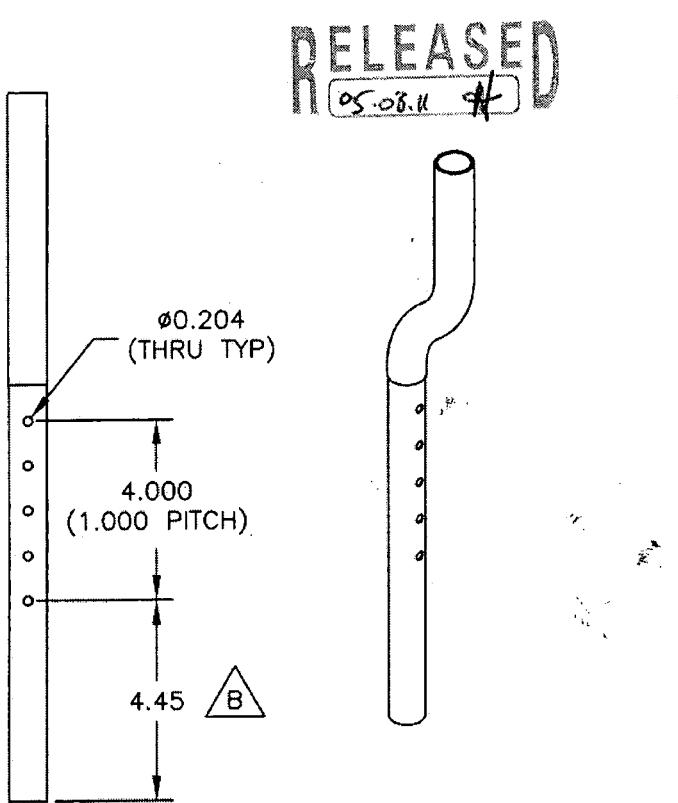
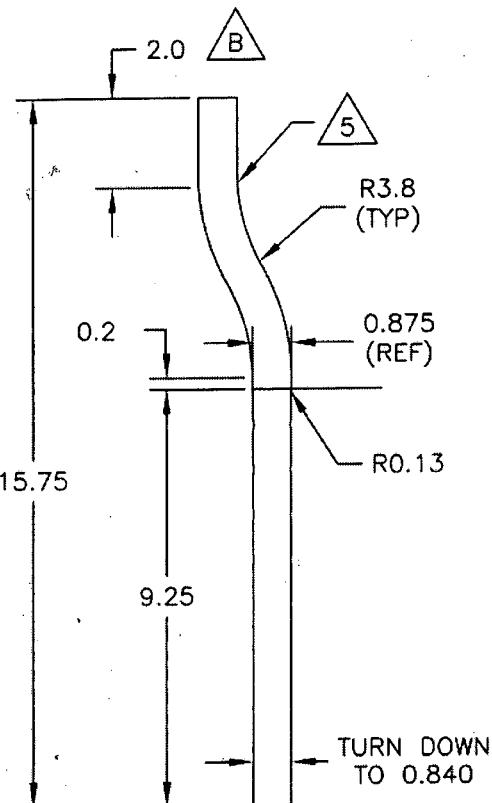
**RELEASED**  
05.08.11 *HF***D3304-1 TUBE****D3304-1 NOTES:**

- 1) MATERIAL: AISI 304/316 STAINLESS STEEL TUBE  $\varnothing 0.875 \times 0.065$  WALL (REF. DART SPEC M304TR0.875W.065) ENSURE SEAMLESS TUBE ISSUED
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015

UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. *29924*

**DART**

DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[initials]</i>	APPROVED <i>[initials]</i>	DRAWING NO. D3304	REV. B SHEET 3 OF 4
DATE 05.07.15		TITLE TUBE ASSEMBLY	SCALE 1:4

**D3304-3 TUBE****D3304-3 NOTES:**

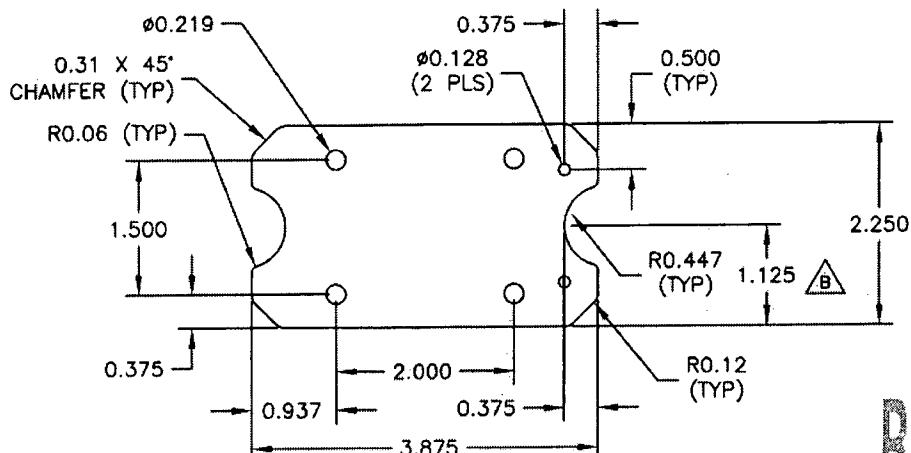
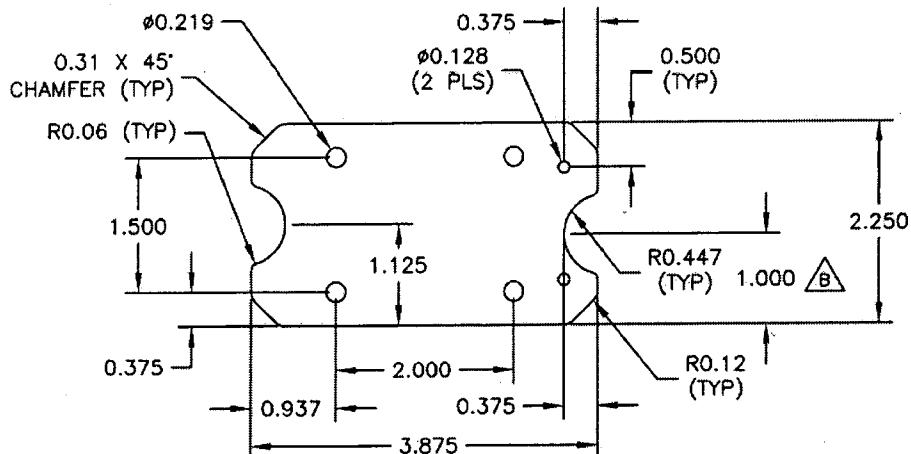
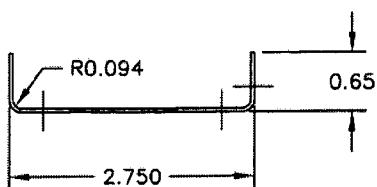
- 1) MATERIAL: AISI 304/316 STAINLESS STEEL TUBE Ø0.875 x 0.065 WALL (REF. DART SPEC M304TR0.875W.065) ENSURE SEAMLESS TUBE IS USED
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015
- 5) BEND LINES 9.625, 13.375 DIMENSIONS

UNCONTROLLED COPY  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. *29924*

SHOP COPY  
RETURN TO  
ENGINEERING

**DART**

DESIGN RF	DRAWN BY RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D3304	REV. B SHEET 4 OF 4
DATE 05.07.15		TITLE TUBE ASSEMBLY	SCALE 1:2

**RELEASED**  
05.07.11 *[Signature]***D3304-5 FLAT PATTERN****D3304-7/-8 FLAT PATTERN****D3304-5/-7 BRACKET  
D3304-8 OPPOSITE**

**UNCONTROLLED COPY**  
SUBJECT TO AMENDMENT  
WITHOUT NOTICE  
WORK ORDER  
NO. *29924*

**NOTES:**

- 1) MATERIAL: AISI 304/316 SS 0.040 THICK SHEET (REF. DART SPEC M304S20GA)
- 2) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED
- 3) ALL DIMENSIONS ARE IN INCHES
- 4) BREAK ALL SHARP EDGES 0.005 TO 0.015